Aircraft Manufacturer Bell Helicopter

Aircraft Engine Manufacturer Avco Lycoming (LTS 101-650C-2)

No. of Engines 2 Engine Rating 675 SHP

Minimum Take-Off Weight 5.37 k-lb

Maximum Take-Off Weight Peace-Time 7.85 k-lb

Maximum Take-Off Weight War-Time 7.85 k-lb

Maximum Landing Weight 7.85 k-lb

Hover Ceiling (In Ground Effect) 4,200 ft

Hover Ceiling (Out of Ground Effect) 4,600 ft

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D
7,850 lb/75 psi**								

** The relative structural effect of an aircraft with a weight less than 12,500 pounds is reported as maximum aircraft weight and maximum tire pressure.

Figure A-502. Bell 222

Aircraft Manufacturer Bell Helicopter

Aircraft Engine Manufacturer Avco Lycoming (LTS 101-750C-1)

No. of Engines 2 Engine Rating 684 SHP

Minimum Take-Off Weight 5.41 k-lb

Maximum Take-Off Weight Peace-Time 8.25 k-lb

Maximum Take-Off Weight War-Time 8.25 k-lb

Maximum Landing Weight 8.25 k-lb

Hover Ceiling (In Ground Effect) 7,100 ft

Hover Ceiling (Out of Ground Effect) 6,400 ft

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D
8,250 lb/75 psi**								

** The relative structural effect of an aircraft with a weight less than 12,500 pounds is reported as maximum aircraft weight and maximum tire pressure.

Figure A-503. Bell 222B

Aircraft Manufacturer Bell Helicopter

Aircraft Engine Manufacturer Avco Lycoming (LTS 101-750C-1)

No. of Engines 2 Engine Rating 684 SHP

Minimum Take-Off Weight 5.49 k-lb

Maximum Take-Off Weight Peace-Time 8.25 k-lb

Maximum Take-Off Weight War-Time 8.25 k-lb

Maximum Landing Weight 8.25 k-lb

Hover Ceiling (In Ground Effect) 7,100 ft

Hover Ceiling (Out of Ground Effect) 6,400 ft

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D

Note: The relative structural effect of an aircraft is not expressed for a skid equipped helicopter. This aircraft may damage AC pavement surfaces during hot weather.

Figure A-504. Bell 222UT, Utility Twin

Aircraft Manufacturer Bell Helicopter

Aircraft Engine Manufacturer Allison (250-C30R)

No. of Engines 1 Engine Rating 650 SHP

Minimum Take-Off Weight 3.36 k-lb

Maximum Take-Off Weight Peace-Time 4.5 k-lb

Maximum Take-Off Weight War-Time 4.5 k-lb

Maximum Landing Weight 4.5 k-lb

Hover Ceiling (In Ground Effect) 12,000 ft

Hover Ceiling (Out of Ground Effect) 11,200 ft

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D

Note: The relative structural effect of an aircraft is not expressed for a skid equipped helicopter. This aircraft may damage AC pavement surfaces during hot weather.

Figure A-505. Bell 406 AHIP (OH-58D), Kiowa

Aircraft Manufacturer Bell Helicopter

Aircraft Engine Manufacturer Pratt and Whitney Canada (PT6T-3B-1)

No. of Engines 2 Engine Rating 1800 SHP

Minimum Take-Off Weight 7.24 k-lb

Maximum Take-Off Weight Peace-Time 11.9 k-lb

Maximum Take-Off Weight War-Time 11.9 k-lb

Maximum Landing Weight 11.9 k-lb

Hover Ceiling (In Ground Effect) 9,200 ft

Hover Ceiling (Out of Ground Effect) 9,200 ft

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D

Note: The relative structural effect of an aircraft is not expressed for a skid equipped helicopter. This aircraft may damage AC pavement surfaces during hot weather.

Figure A-506. Bell 412

Aircraft Manufacturer Bell and Boeing Helicopter Co.

Aircraft Engine Manufacturer Allison (T406-AD-400)

No. of Engines 2 Engine Rating 6150 SHP

Minimum Take-Off Weight 32.8 k-lb

Maximum Take-Off Weight Peace-Time 55.0 k-lb (Normal STOL)

Maximum Take-Off Weight War-Time 60.5 k-lb (Self Deployment STOL)

Maximum Landing Weight †

Hover Ceiling (In Ground Effect) 17,000 ft (At 55.0 k-lb)

Hover Ceiling (Out of Ground Effect) 15,000 ft (At 55.0 k-lb)

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D

Note: Adequate aircraft data is not available to express the relative structural effect of the aircraft.

Figure A-507. Bell/Boeing 301 (V-22), Osprey

Aircraft Manufacturer Boeing Helicopter

Aircraft Engine Manufacturer General Electric (CT58-140)

No. of Engines 2 Engine Rating 1400 SHP

Minimum Take-Off Weight 13.0 k-lb

Maximum Take-Off Weight Peace-Time 20.0 k-lb

Maximum Take-Off Weight War-Time 22.0 k-lb
(With external load)

Maximum Landing Weight 20.0 k-lb

Hover Ceiling (In Ground Effect) 11,500 ft
(At 22.0 k-lb)

Hover Ceiling (Out of Ground Effect) 8,800 ft
(At 22.0 k-lb)

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D
13	2	2	2	2	3	3	3	3
20	3	3	3	3	3	3	3	4
22	4	4	4	4	4	4	4	5

Figure A-508. Boeing 107-II

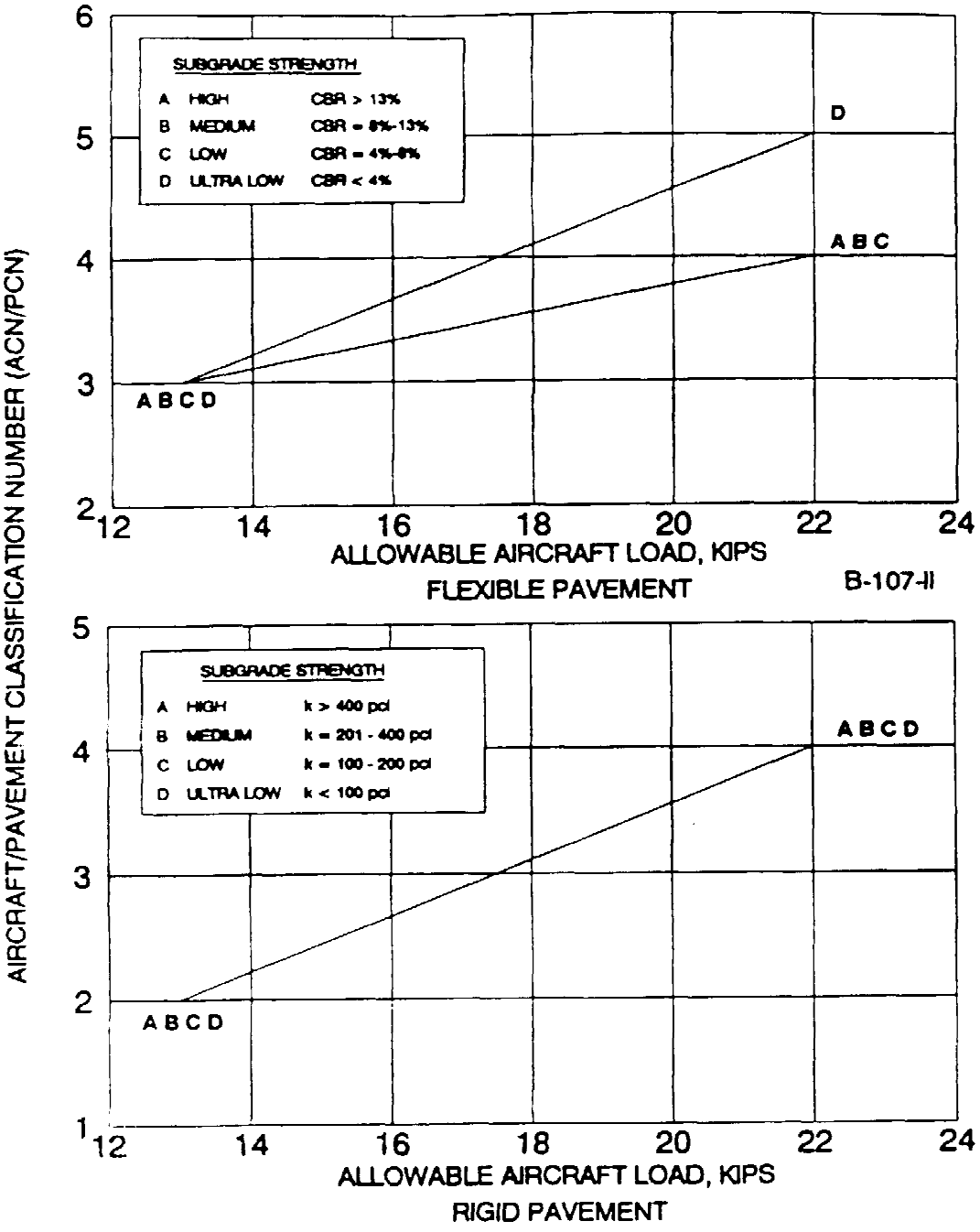

Figure A-509. Boeing 107-II, ACN/PCN Curves

Aircraft Manufacturer Boeing Helicopter

Aircraft Engine Manufacturer Lycoming (T55-L-7C)

No. of Engines 2 Engine Rating 2850 SHP

Minimum Take-Off Weight 21.0 k-lb

Maximum Take-Off Weight Peace-Time 33.0 k-lb

Maximum Take-Off Weight War-Time 40.0 k-lb

Maximum Landing Weight 40.0 k-lb

Hover Ceiling (In Ground Effect) 14,200 ft (At 33.0 k-lb)

Hover Ceiling (Out of Ground Effect) 10,650 ft (At 33.0 k-lb)

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D
21	3	3	4	4	1	2	3	4
33	6	6	7	7	4	5	6	7
40	8	8	9	9	6	7	8	9

Figure A-510. Boeing 114 (CH-47B), Chinook

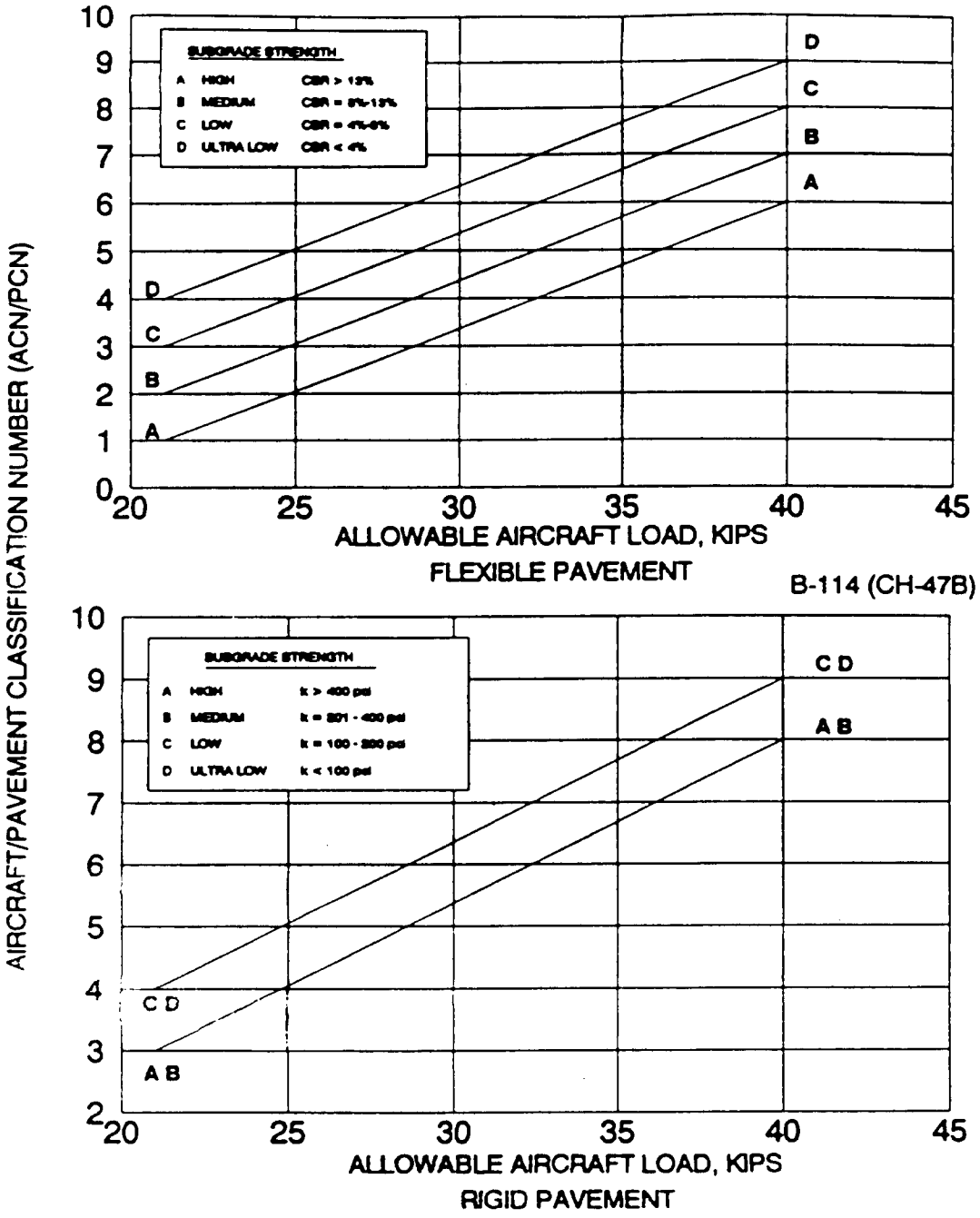

Figure A-511. Boeing 114 (CH-47B), ACN/PCN Curves

Aircraft Manufacturer Boeing Helicopter

Aircraft Engine Manufacturer Lycoming (T55-L-11A)

No. of Engines 2 Engine Rating 3750 SHP

Minimum Take-Off Weight 22.0 k-lb

Maximum Take-Off Weight Peace-Time 33.0 k-lb

Maximum Take-Off Weight War-Time 46.0 k-lb

Maximum Landing Weight 46.0 k-lb

Hover Ceiling (In Ground Effect) 14,200 ft (At 33.0 k-lb)

Hover Ceiling (Out of Ground Effect) 10,650 ft (At 33.0 k-lb)

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D
22	3	3	4	4	1	2	3	4
33	6	6	7	7	4	5	6	7
46	9	10	10	11	7	8	9	11

Figure A-512. Boeing 114 (CH-47C), Chinook

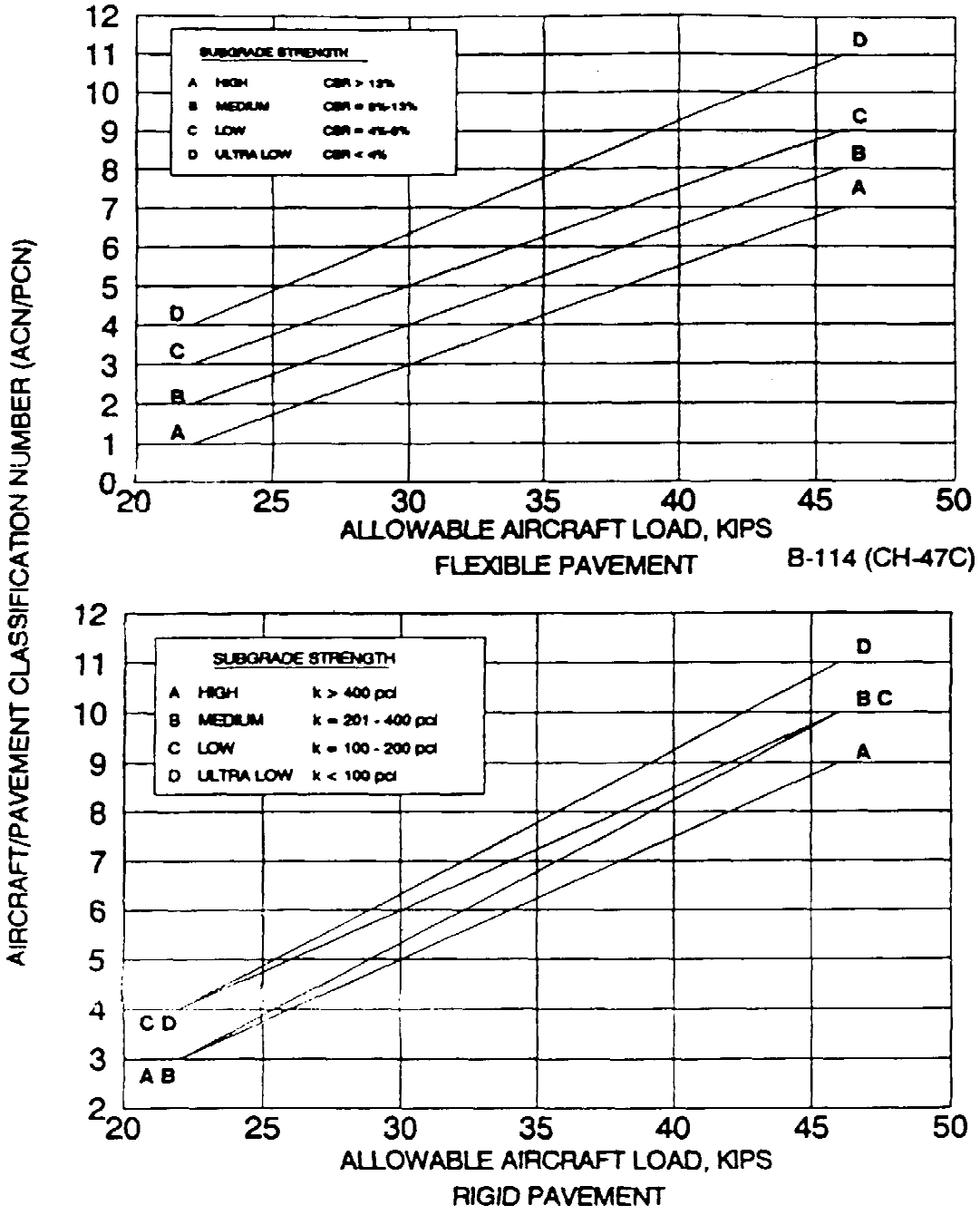

Figure A-513. Boeing 114 (CH-47C), ACN/PCN Curves

Aircraft Manufacturer Boeing Helicopter

Aircraft Engine Manufacturer Avco Lycoming (T55-L-712)

No. of Engines 2 Engine Rating 3750 SHP

Minimum Take-Off Weight 32.0 k-lb

Maximum Take-Off Weight Peace-Time 50.0 k-lb

Maximum Take-Off Weight War-Time 50.0 k-lb

Maximum Landing Weight 50.0 k-lb

Hover Ceiling (In Ground Effect) 8,200 ft

Hover Ceiling (Out of Ground Effect) 4,950 ft

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D
32	6	6	7	7	4	5	6	7
50	10	11	11	12	8	9	10	12

Figure A-514. Boeing 114 (CH-47D), Chinook

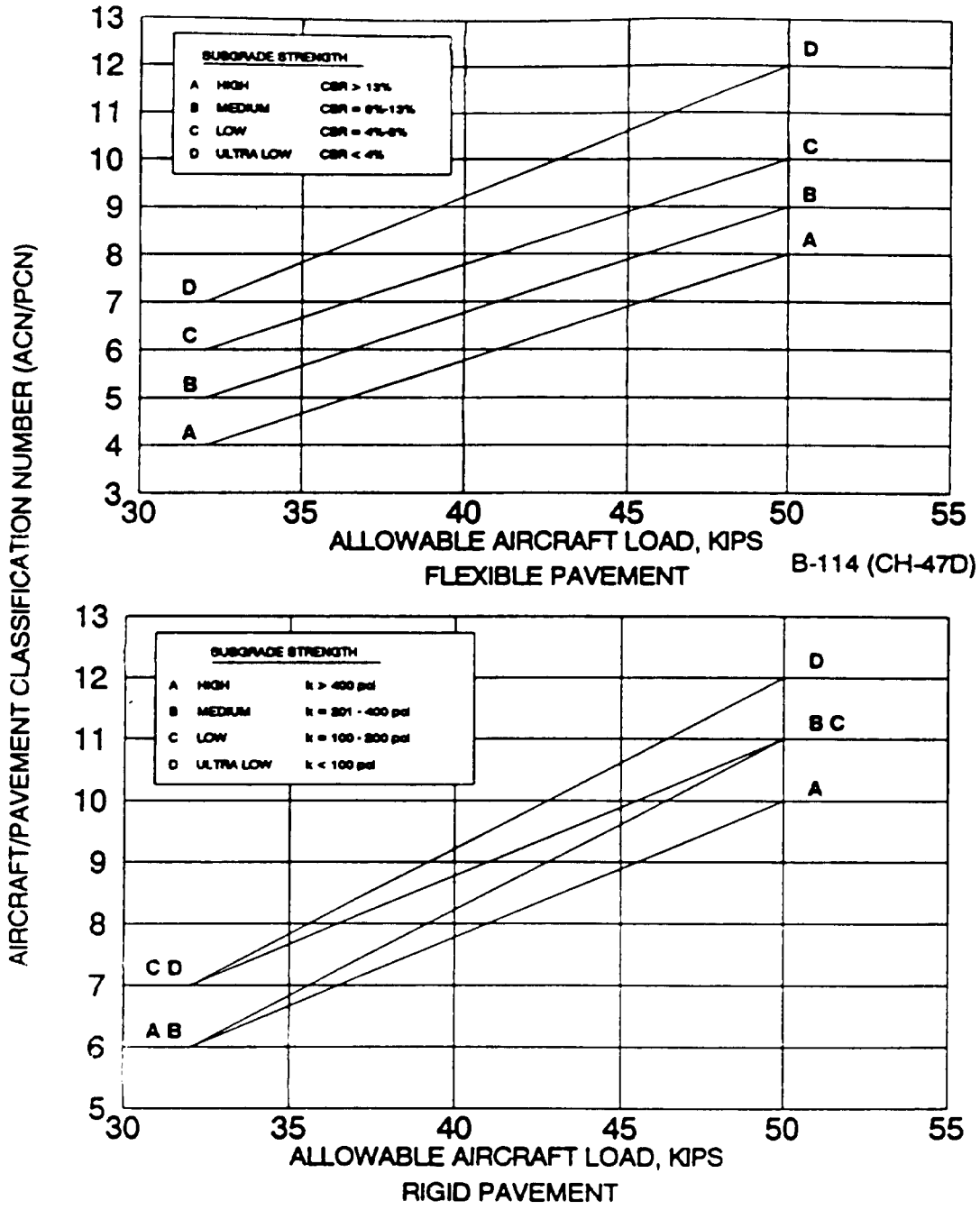

Figure A-515. Boeing 114 (CH-47D), ACN/PCN Curves

Aircraft Manufacturer Boeing Helicopter

Aircraft Engine Manufacturer Avco Lycoming (AL 5512)

No. of Engines 2 Engine Rating 4075 SHP

Minimum Take-Off Weight 31.2 k-lb

Maximum Take-Off Weight Peace-Time 48.5 k-lb

Maximum Take-Off Weight War-Time 51.0 k-lb
(With external load)

Maximum Landing Weight 48.5 k-lb

Hover Ceiling (In Ground Effect) 8,500 ft
(At 48.5 k-lb)

Hover Ceiling (Out of Ground Effect) 2,700 ft
(At 48.5 k-lb)

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D
31	6	6	7	7	4	5	6	7
49	10	11	11	12	8	9	10	12
51	10	11	11	12	8	9	10	12

Figure A-516. Boeing 234 LR

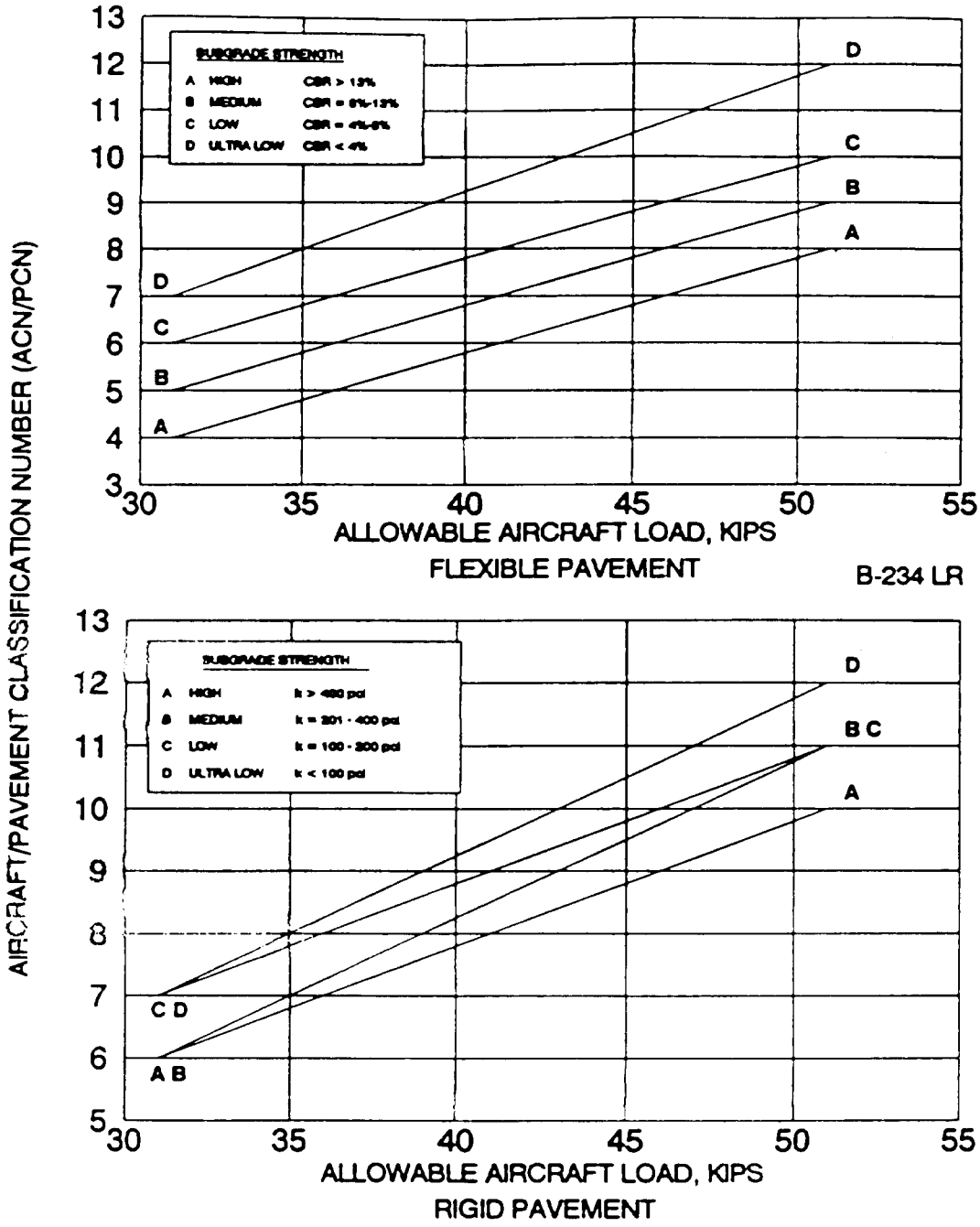

Figure A-517. Boeing 234 LR, ACN/PCN Curves

Aircraft Manufacturer Boeing Helicopter

Aircraft Engine Manufacturer Avco Lycoming (AL 5512)

No. of Engines 2 Engine Rating 4075 SHP

Minimum Take-Off Weight 33.2 k-lb

Maximum Take-Off Weight Peace-Time 48.5 k-lb

Maximum Take-Off Weight War-Time 51.0 k-lb
(With external load)

Maximum Landing Weight 48.5 k-lb

Hover Ceiling (In Ground Effect) 8,500 ft
(At 48.5 k-lb)

Hover Ceiling (Out of Ground Effect) 2,700 ft
(At 48.5 k-lb)

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D
33	6	6	7	7	4	5	6	7
49	10	11	11	12	8	9	10	12
51	10	11	11	12	8	9	10	12

Figure A-518. Boeing 234 ER

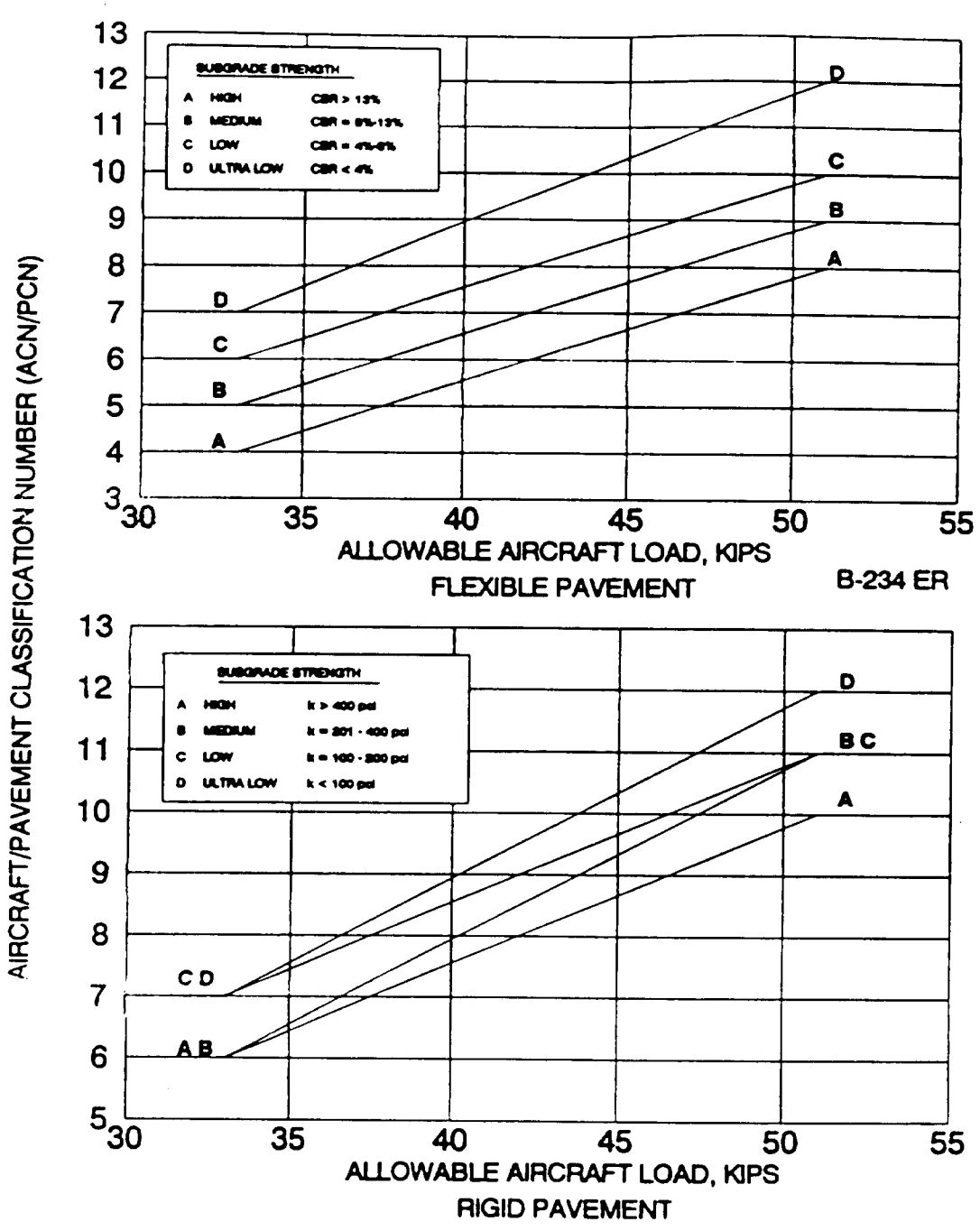

Figure A-519. Boeing 234 ER, ACN/PCN Curves

Aircraft Manufacturer Boeing Helicopter

Aircraft Engine Manufacturer Avco Lycoming (AL 5512)

No. of Engines 2 Engine Rating 4075 SHP

Minimum Take-Off Weight 29.1 k-lb

Maximum Take-Off Weight Peace-Time 48.5 k-lb

Maximum Take-Off Weight War-Time 51.0 k-lb
(With external load)

Maximum Landing Weight 48.5 k-lb

Hover Ceiling (In Ground Effect) 8,500 ft
(At 48.5 k-lb)

Hover Ceiling (Out of Ground Effect) 2,700 ft
(At 48.5 k-lb)

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D
29	5	5	6	6	3	4	5	6
49	10	11	11	12	8	9	10	12
51	10	11	11	12	8	9	10	12

Figure A-520. Boeing 234 MLR

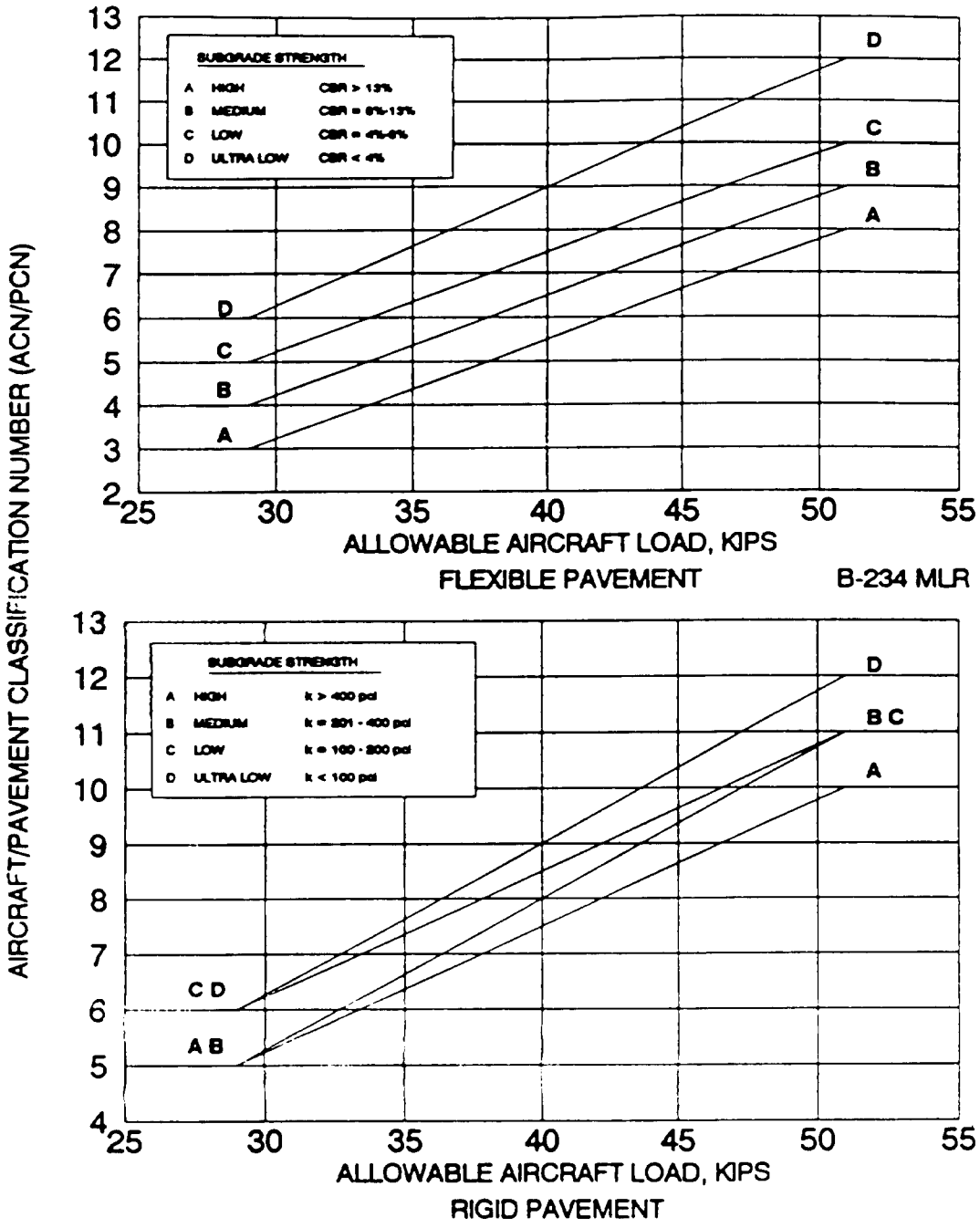

Figure A-521. Boeing 234 MLR, ACN/PCN Curves

Aircraft Manufacturer Boeing Helicopter

Aircraft Engine Manufacturer Avco Lycoming (AL 5512)

No. of Engines 2 Engine Rating 4075 SHP

Minimum Take-Off Weight 24.2 k-lb

Maximum Take-Off Weight Peace-Time 42.0 k-lb

Maximum Take-Off Weight War-Time 51.0 k-lb (With external load)

Maximum Landing Weight 42.0 k-lb

Hover Ceiling (In Ground Effect) 13,400 ft (At 42.0 k-lb)

Hover Ceiling (Out of Ground Effect) 11,500 ft (At 42.0 k-lb)

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D
24	4	4	5	5	2	3	4	5
42	8	9	9	10	6	7	8	10
51	10	11	11	12	8	9	10	12

Figure A-522. Boeing 234 UT

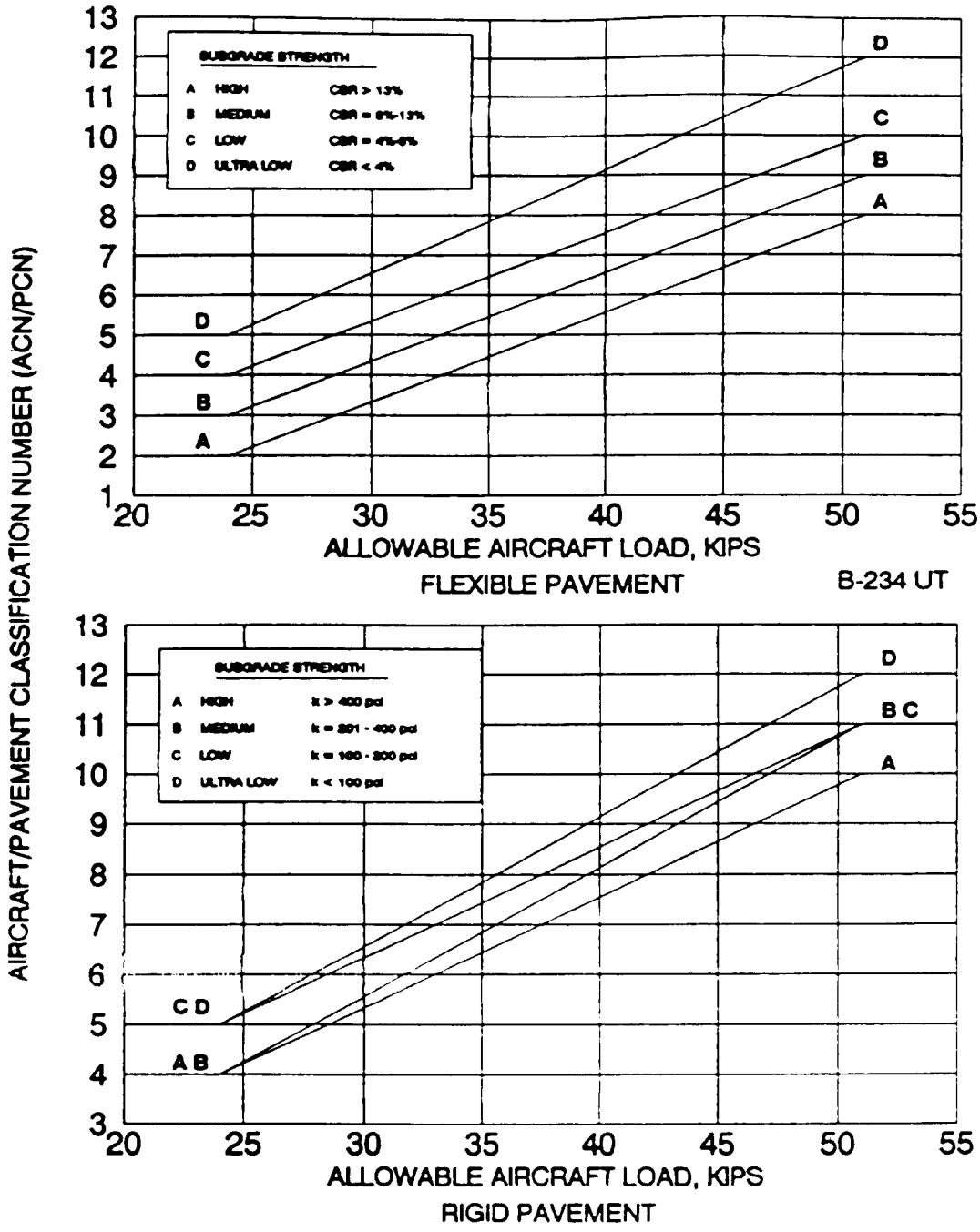

Figure A-523. Boeing 234 UT, ACN/PCN Curves

Aircraft Manufacturer Boeing Helicopter

Aircraft Engine Manufacturer Lycoming/Textron

No. of Engines 2 Engine Rating 4230 SHP

Minimum Take-Off Weight †

Maximum Take-Off Weight Peace-Time 30.5 k-lb

Maximum Take-Off Weight War-Time †

Maximum Landing Weight †

Hover Ceiling (In Ground Effect) †

Hover Ceiling (Out of Ground Effect) †

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D

Note: Adequate aircraft data is not available to express the relative structural effect of the aircraft.

Figure A-524. Boeing 360

Aircraft Manufacturer E. H. Industries

Aircraft Engine Manufacturer General Electric (CT7-6)

No. of Engines 3 Engine Rating 1920 SHP

Minimum Take-Off Weight 22.4 k-lb

Maximum Take-Off Weight Peace-Time 31.5 k-lb

Maximum Take-Off Weight War-Time 31.5 k-lb

Maximum Landing Weight 31.5 k-lb

Hover Ceiling (In Ground Effect) 8,300 ft

Hover Ceiling (Out of Ground Effect) 3,600 ft

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D

Note: Adequate aircraft data is not available to express the relative structural effect of the aircraft.

Figure A-525. E.H. Industries EH 101

Aircraft Manufacturer Enstrom Helicopter Corp.

Aircraft Engine Manufacturer Avco Lycoming (HIO-360-F1AD)

No. of Engines 1 Engine Rating 205 HP

Minimum Take-Off Weight 1.97 k-lb

Maximum Take-Off Weight Peace-Time 2.35 k-lb

Maximum Take-Off Weight War-Time 2.35 k-lb

Maximum Landing Weight 2.35 k-lb

Hover Ceiling (In Ground Effect) 8,800 ft

Hover Ceiling (Out of Ground Effect) 4,100 ft

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D

Note: The relative structural effect of an aircraft is not expressed for a skid equipped helicopter. This aircraft may damage AC pavement surfaces during hot weather.

Figure A-526. Enstrom F28C-2, Shark

Aircraft Manufacturer Enstrom Helicopter Corp.

Aircraft Engine Manufacturer Avco Lycoming (HIO-360-F1AD)

No. of Engines 1 Engine Rating 225 HP

Minimum Take-Off Weight 1.97 k-lb

Maximum Take-Off Weight Peace-Time 2.6 k-lb

Maximum Take-Off Weight War-Time 2.6 k-lb

Maximum Landing Weight 2.6 k-lb

Hover Ceiling (In Ground Effect) 6,800 ft

Hover Ceiling (Out of Ground Effect) 0 ft

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D

Note: The relative structural effect of an aircraft is not expressed for a skid equipped helicopter. This aircraft may damage AC pavement surfaces during hot weather.

Figure A-527. Enstrom F28F, Falcon

Aircraft Manufacturer Enstrom Helicopter Corp.

Aircraft Engine Manufacturer Avco Lycoming (HIO-360-F1AD)

No. of Engines 1 Engine Rating 205 HP

Minimum Take-Off Weight 1.97 k-lb

Maximum Take-Off Weight Peace-Time 2.35 k-lb

Maximum Take-Off Weight War-Time 2.35 k-lb

Maximum Landing Weight 2.35 k-lb

Hover Ceiling (In Ground Effect) 8,800 ft

Hover Ceiling (Out of Ground Effect) 4,100 ft

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D

Note: The relative structural effect of an aircraft is not expressed for a skid equipped helicopter. This aircraft may damage AC pavement surfaces during hot weather.

Figure A-528. Enstrom 280C, Shark

Aircraft Manufacturer Enstrom Helicopter Corp.

Aircraft Engine Manufacturer Avco Lycoming (HIO-360-F1AD)

No. of Engines 1 Engine Rating 225 HP

Minimum Take-Off Weight 1.97 k-lb

Maximum Take-Off Weight Peace-Time 2.6 k-lb

Maximum Take-Off Weight War-Time 2.6 k-lb

Maximum Landing Weight 2.6 k-lb

Hover Ceiling (In Ground Effect) 6,800 ft

Hover Ceiling (Out of Ground Effect) 0 ft

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D

Note: The relative structural effect of an aircraft is not expressed for a skid equipped helicopter. This aircraft may damage AC pavement surfaces during hot weather.

Figure A-529. Enstrom 280F, Shark

Aircraft Manufacturer Enstrom Helicopter Corp.

Aircraft Engine Manufacturer Avco Lycoming (HIO-360-F1AD)

No. of Engines 1 Engine Rating 225 HP

Minimum Take-Off Weight 1.97 k-lb

Maximum Take-Off Weight Peace-Time 2.6 k-lb

Maximum Take-Off Weight War-Time 2.6 k-lb

Maximum Landing Weight 2.6 k-lb

Hover Ceiling (In Ground Effect) 7,800 ft

Hover Ceiling (Out of Ground Effect) 0 ft

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D

Note: The relative structural effect of an aircraft is not expressed for a skid equipped helicopter. This aircraft may damage AC pavement surfaces during hot weather.

Figure A-530. Enstrom 280FX, Shark

Aircraft Manufacturer Hynes Helicopter

Aircraft Engine Manufacturer Avco Lycoming (IVO-360-A1A)

No. of Engines 1 Engine Rating 180 HP

Minimum Take-Off Weight 1.25 k-lb

Maximum Take-Off Weight Peace-Time 1.67 k-lb

Maximum Take-Off Weight War-Time 1.67 k-lb

Maximum Landing Weight 1.67 k-lb

Hover Ceiling (In Ground Effect) 6,700 ft

Hover Ceiling (Out of Ground Effect) †

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D

Note: The relative structural effect of an aircraft is not expressed for a skid equipped helicopter. This aircraft may damage AC pavement surfaces during hot weather.

Figure A-531. Hynes H-2/with skid landing gear